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# (12) United States Patent Petty

## (54) METHOD AND APPARATUS FOR CIRCULATING FLUIDIZED BED SCRUBBER AUTOMATED TEMPERATURE SETPOINT CONTROL

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(65) **Prior Publication Data** 

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## Related U.S. Application Data

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- (51) **Int. Cl. B01D 53/02** (2006.01)
- (52) **U.S. Cl.** ............. **95/10**; 95/11; 95/14; 95/17; 95/108; 95/137; 423/243.08; 96/111; 96/112; 96/123; 96/150
- (58) **Field of Classification Search** ....................... 95/16, 108, 95/187, 199, 233; 96/112, 115, 123, 150,

See application file for complete search history.

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### (57) ABSTRACT

A method and system for automated control of the operating temperature setpoint of a circulating fluidized bed (CFB) scrubber within a pre-determined range of approach temperatures to the adiabatic saturation temperature of the CFB scrubber exhaust stream to maintain an optimal operating temperature, thereby reducing low temperature sulfuric acid corrosion and deposition of wet materials, and high temperature excess reagent use. A Dewcon® Moisture Analyzer (or equivalent) is connected in the exhaust stream of the CFB scrubber. The Dewcon® Moisture Analyzer transmits adiabatic saturation temperature data of the exhaust stream to the CFB scrubber system controller. Based on pre-programmed parameters, the system controller adjusts the CFB scrubber temperature setpoint.

## 21 Claims, 1 Drawing Sheet

